

REMARKS

The Office Action mailed on October 15, 2004, is hereby acknowledged. Applicants request reconsideration of the present application in view of the above amendments and the following remarks.

CLAIM AMENDMENTS

With this response, Applicants amend claim 1 to clarify the invention being claimed. Previously, claim 1 claimed an arrangement enabling even flow of a liquid around a sample surface comprising, in part, "inflow and outflow pipes each extending to opposite ends of the flow chamber from inflow and outflow containers, respectively..." Claim 1 also previously included a final clause reading: "wherein the inflow and outflow pipes extend in opposite ends of the flow chamber and the outflow tube begins in the outflow container." Applicants believe this clause to be redundant.

Applicants have deleted the final clause in the claim, as indicated in the claim amendments above. In addition, Applicants have clarified that "inflow and outflow pipes" refers to "a plurality of inflow pipes and a plurality of outflow pipes" extending into the flow chamber. Moreover, Applicants now specify that the inflow pipes and outflow pipes extend into opposing ends of the flow chamber.

Applicants submit that the changes to claim 1 clarify the invention set forth in the claim. Moreover, for the following reasons, Applicants assert that claim 1 is in condition for allowance and is allowable over the cited prior art.

STATUS OF THE CLAIMS

Claims 1-18 are currently pending in the present application. In the Office Action, the Examiner indicates claims 2-18 are in condition for allowance. Claim 1 stands rejection under 35 U.S.C. § 103(a). Applicants disagree with the rejection of claim 1 and respectfully assert claim 1 is in condition for allowance.

The Rejection

The Examiner rejects claim 1 under 35 U.S.C. § 103(a) as obvious over U.S. Patent 5,597,460 issued to Reynolds. Specifically, the Examiner asserts Reynolds teaches:

- a flow chamber having said liquid flowing therethrough (Fig. 1, numeral 10);
- a sample located at least in part in said flow chamber and rotatable about an axis of rotation by means of a rotary drive (col. 5, lines 1-15, Fig. 1, numerals 18 and 22)
- inflow and outflow pipes (Fig. 1, numerals 44 and 30, respectively) each exiting to opposite ends of the flow chamber (Fig. 1, numeral 10) from a flow container (Fig. 1, numeral 38);
- a flow generator (Fig. 1, numeral 34); and,
- filters arranged in the flow container having liquid flowing therethrough (Fig. 1, numeral 36).

The Examiner does acknowledge a difference between claim 1 and Reynolds. The Examiner correctly notes that Reynolds comprises a recycle arrangement, and claim 1 includes an arrangement comprising separate inflow and outflow containers. The Examiner asserts it would have been obvious to separate a recycle tank into separate containers because build up of electrolytes can be avoided by not recycling.

Applicants disagree that Reynolds renders claim 1 obvious. Moreover, Applicants believe claim 1 is allowable over the cited prior art.

Argument

Claim 1 sets forth an arrangement for enabling a liquid to evenly flow around the surface of a sample. As claim 1 now clearly requires that the claimed arrangement comprise, in part, a plurality of inflow pipes and a plurality of outflow pipes extending into opposing ends of a flow chamber. Reynolds clearly fails to disclose a plurality of inflow and outflow pipes. Instead, Reynolds teaches an apparatus comprising a single inflow pipe and a single outflow pipe.

As explained in the present application, using a plurality of inflow pipes and a plurality of outflow pipes permits a more even, homogeneous flow of the liquid over the

surface of the sample than that obtainable with a single inflow pipe and a single outflow pipe. In reference to Figure 2, the specification specifically explains:

[t]he size of the filter pores 24 is selected to vary across the overall filter area such that the pressure differential between inflow pipes 7 and outflow pipes arranged at different distance from the inflow tube 11 and the outflow tube 12, respectively, is compensated. This provides for uniform flow through the inflow pipes 7 and the outflow pipes 8, which favors a laminar flow in flow chamber 1.

Reynolds does not disclose a plurality of inflow pipes and a plurality of outflow pipes connected to a flow chamber. In addition, Reynolds fails to disclose utilizing a filter in conjunction with the plurality of inflow pipes and the plurality of outflow pipes for the purpose of achieving laminar flow. Instead, Reynolds discloses a configuration in which fluid flows through a single tube and is injected into the bath via an arcuate laminar flow sparger. *See* Reynolds, column 5, lines 23-28. Reynolds further discloses that "[a] sparger or equivalent injection means introduces the solution into the plating bath and forms a laminar flow of the electrolyte or plating solution across the surface of the substrate to be plated." *See* Reynolds, column 3, lines 35-38. Since Reynolds teaches a mechanism achieving laminar flow via a sparger, no motivation exists to modify Reynolds to include a plurality of inflow pipes and a plurality of outflow pipes in order to provide for laminar flow of the liquid over the sample.

CONCLUSION


For the above reasons, Applicants submit Reynolds does not teach all of the limitations set forth in claim 1. Moreover, Applicants further assert there would be no motivation and it would not be obvious to modify Reynolds to include a plurality of inflow pipes and a plurality of outflow pipes for the purpose of producing laminar flow. Thus, Applicants believe claim 1 is allowable over the cited prior art. With the indication by the Examiner that claims 2-18 are in condition for allowance, Applicants assert the pending application is in condition for allowance and respectfully requests passage thereof.

For all of the foregoing comments, applicants believe that the current application is in condition for allowance, and respectfully request early passage thereof. If necessary to effect

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a timely response, please consider this paper a request for an extension of time, and charge any shortages in fees, or apply any overpayment credits, to Baker & Daniels' Deposit Account No. 02-0387 (72262.90022). However, please do not include the payment of issue fees.

Respectfully submitted,


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